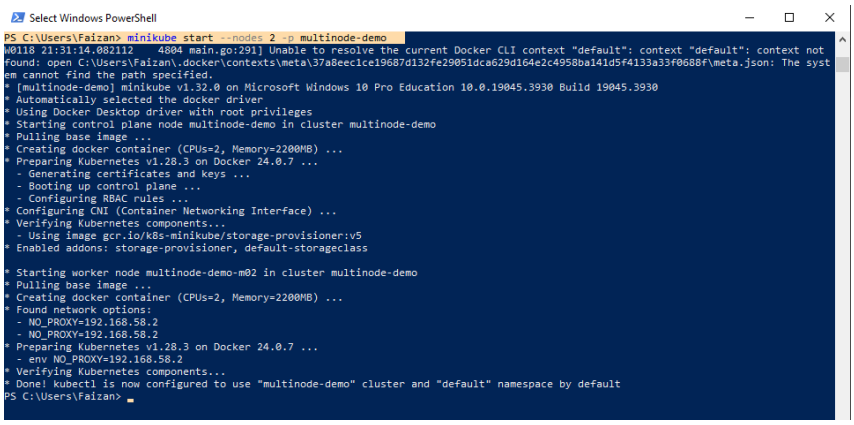
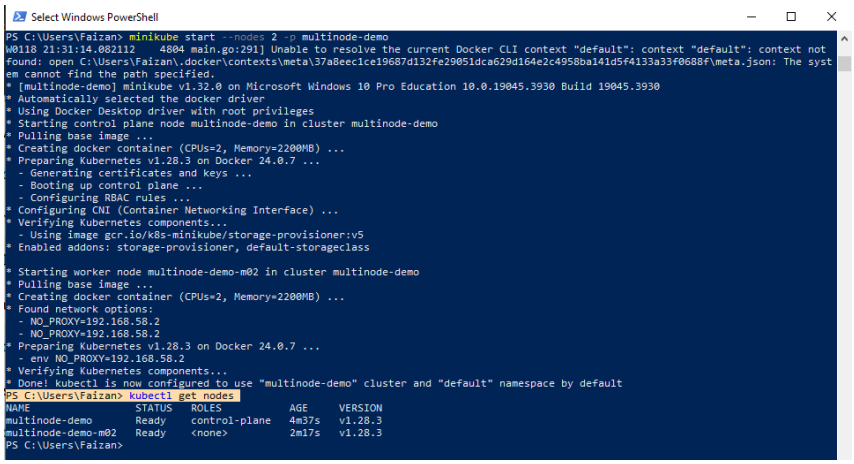
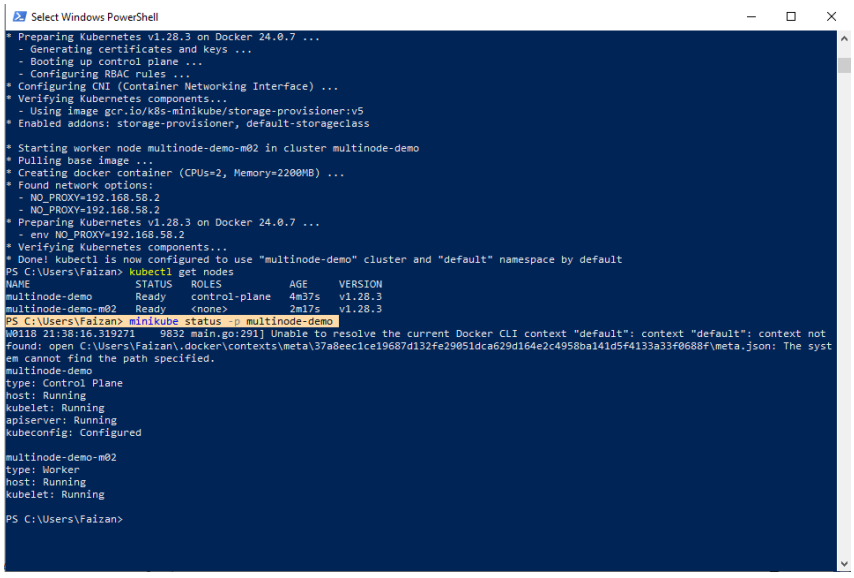
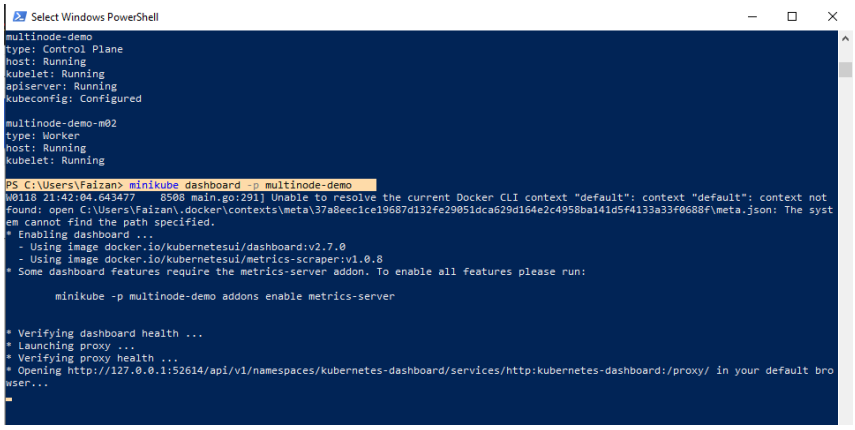
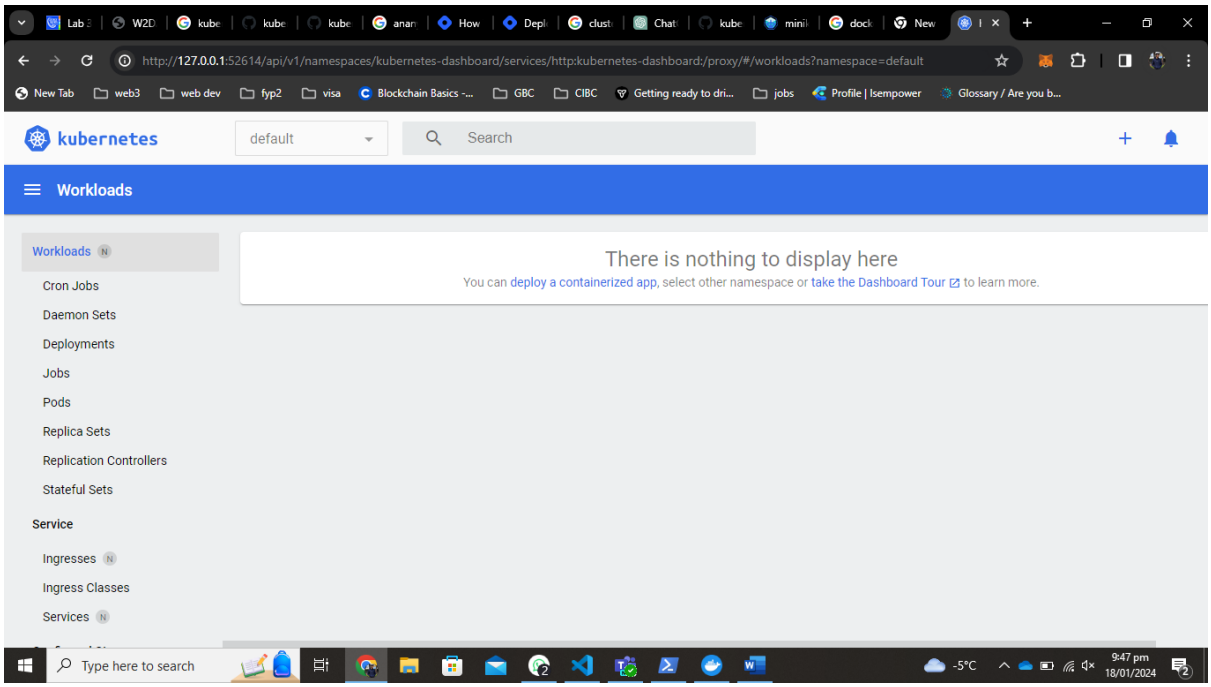
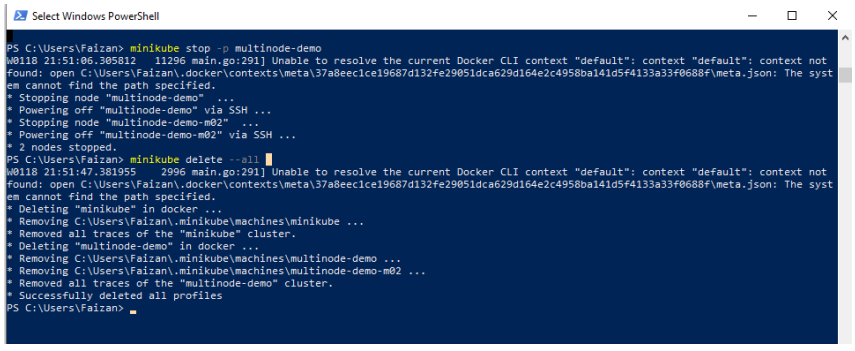

Select Windows PowerShell
PS C:\Users\Faizan> minikube start --nodes 2 -p multinode-demo
W0118 21:31:14.082112 4804 main.go:291] Unable to resolve the current Docker CLI context "default": context "default": context not found: open C:\Users\Faizan\.docker\contexts\meta\37a8eec1ce19687d132fe29051dca629d164e2c4958ba141d5f4133a33f0688f\meta.json: The system cannot find the path specified.
* [multinode-demo] minikube v1.32.0 on Microsoft Windows 10 Pro Education 10.0.19045.3930 Build 19045.3930
* Automatically selected the docker driver
* Using Docker Desktop driver with root privileges
* Starting control plane node multinode-demo in cluster multinode-demo
* Pulling base image ...
* Creating docker container (CPUs=2, Memory=2200MB) ...
* Preparing Kubernetes v1.28.3 on Docker 24.0.7 ...
- Generating certificates and keys ...
- Booting up control plane ...
- Configuring RBAC rules ...
* Configuring CNI (Container Networking Interface) ...
* Verifying Kubernetes components...
- Using image gcr.io/k8s-minikube/storage-provisioner:v5
* Enabled addons: storage-provisioner, default-storageclass
* Starting worker node multinode-demo-m02 in cluster multinode-demo
* Pulling base image ...
* Creating docker container (CPUs=2, Memory=2200MB) ...
* Found network options:
- NO_PROXY=192.168.58.2
- NO_PROXY=192.168.58.2
* Preparing Kubernetes v1.28.3 on Docker 24.0.7 ...
- env NO_PROXY=192.168.58.2
* Verifying Kubernetes components...
* Done! kubectl is now configured to use "multinode-demo" cluster and "default" namespace by default
PS C:\Users\Faizan>


Select Windows PowerShell
PS C:\Users\Faizan> minikube start --nodes 2 -p multinode-demo
W0118 21:31:14.082112 4804 main.go:291] Unable to resolve the current Docker CLI context "default": context "default": context not found: open C:\Users\Faizan\.docker\contexts\meta\37a8eec1ce19687d132fe29051dca629d164e2c4958ba141d5f4133a33f0688f\meta.json: The system cannot find the path specified.
* [multinode-demo] minikube v1.32.0 on Microsoft Windows 10 Pro Education 10.0.19045.3930 Build 19045.3930
* Automatically selected the docker driver
* Using Docker Desktop driver with root privileges
* Starting control plane node multinode-demo in cluster multinode-demo
* Pulling base image ...
* Creating docker container (CPUs=2, Memory=2200MB) ...
* Preparing Kubernetes v1.28.3 on Docker 24.0.7 ...
- Generating certificates and keys ...
- Booting up control plane ...
- Configuring RBAC rules ...
* Configuring CNI (Container Networking Interface) ...
* Verifying Kubernetes components...
- Using image gcr.io/k8s-minikube/storage-provisioner:v5
* Enabled addons: storage-provisioner, default-storageclass
* Starting worker node multinode-demo-m02 in cluster multinode-demo
* Pulling base image ...
* Creating docker container (CPUs=2, Memory=2200MB) ...
* Found network options:
- NO_PROXY=192.168.58.2
- NO_PROXY=192.168.58.2
* Preparing Kubernetes v1.28.3 on Docker 24.0.7 ...
- env NO_PROXY=192.168.58.2
* Verifying Kubernetes components...
* Done! kubectl is now configured to use "multinode-demo" cluster and "default" namespace by default
PS C:\Users\Faizan> kubectl get nodes
NAME STATUS ROLES AGE VERSION
multinode-demo Ready control-plane 4m37s v1.28.3
multinode-demo-m02 Ready <none> 2m17s v1.28.3
PS C:\Users\Faizan>

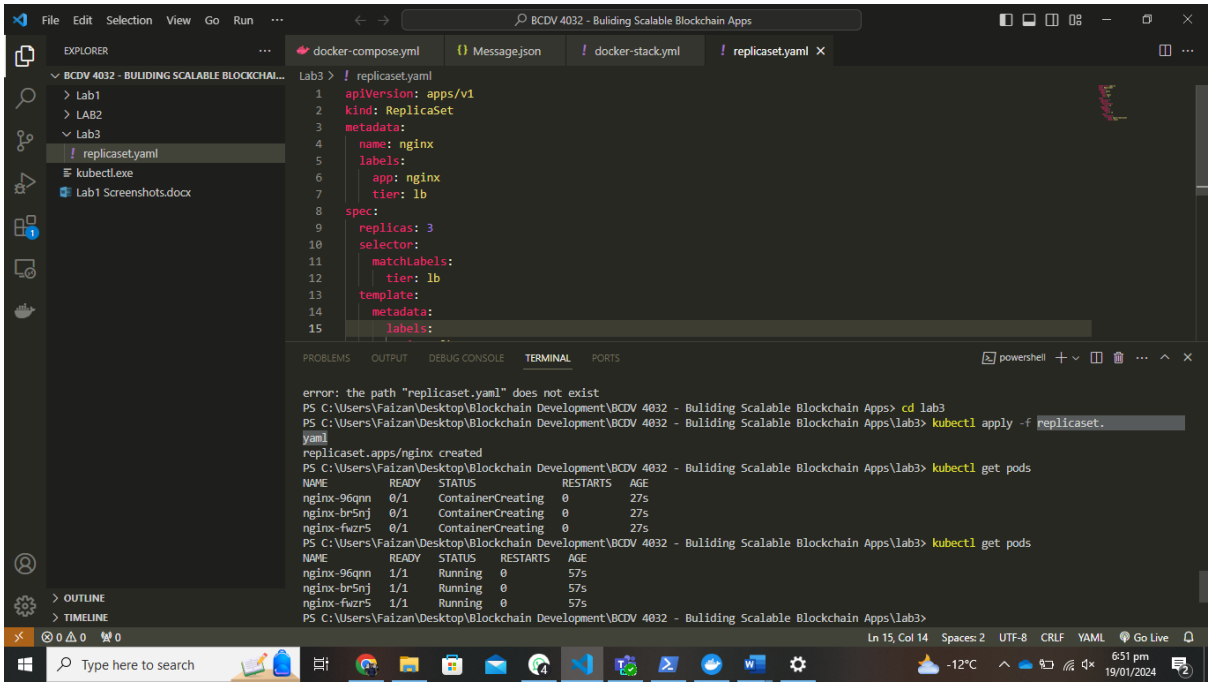

Select Windows PowerShell
* Preparing Kubernetes v1.28.3 on Docker 24.0.7 ...
- Generating certificates and keys ...
- Booting up control plane ...
- Configuring RBAC rules ...
* Configuring CNI (Container Networking Interface) ...
* Verifying Kubernetes components...
- Using image gcr.io/k8s-minikube/storage-provisioner:v5
* Enabled addons: storage-provisioner, default-storageclass
* Starting worker node multinode-demo-m02 in cluster multinode-demo
* Pulling base image ...
* Creating docker container (CPUs=2, Memory=2200MB) ...
* Found network options:
- NO_PROXY=192.168.58.2
- NO_PROXY=192.168.58.2
* Preparing Kubernetes v1.28.3 on Docker 24.0.7 ...
- env NO_PROXY=192.168.58.2
* Verifying Kubernetes components...
* Done! kubectl is now configured to use "multinode-demo" cluster and "default" namespace by default
PS C:\Users\Faizan> kubectl get nodes
NAME STATUS ROLES AGE VERSION
multinode-demo Ready control-plane 4m37s v1.28.3
multinode-demo-m02 Ready <none> 2m17s v1.28.3
PS C:\Users\Faizan> minikube status -p multinode-demo
W0118 21:38:16.319271 9832 main.go:291] Unable to resolve the current Docker CLI context "default": context "default": context not found: open C:\Users\Faizan\.docker\contexts\meta\37a8eec1ce19687d132fe29051dca629d164e2c4958ba141d5f4133a33f0688f\meta.json: The system cannot find the path specified.
multinode-demo
type: Control Plane
host: Running
kubelet: Running
apiserver: Running
kubeconfig: Configured
multinode-demo-m02
type: Worker
host: Running
kubelet: Running
PS C:\Users\Faizan>

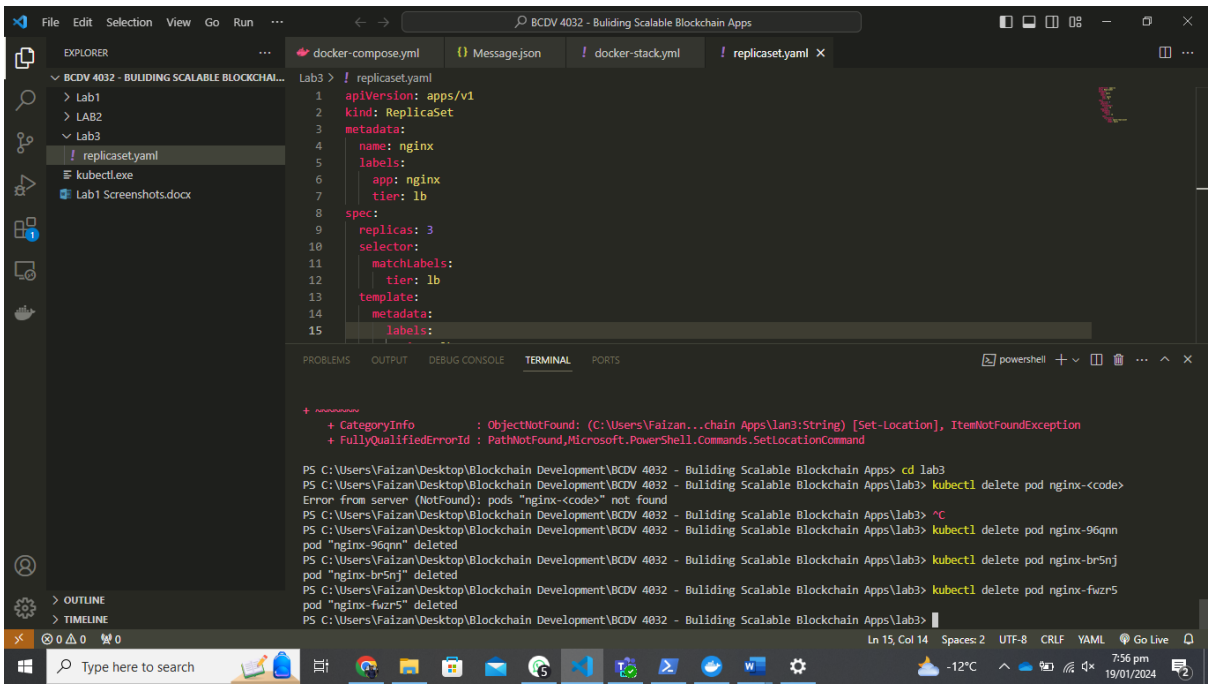

Select Windows PowerShell
multinode-demo
type: Control Plane
host: Running
kubelet: Running
apiserver: Running
kubeconfig: Configured
multinode-demo-m02
type: Worker
host: Running
kubelet: Running
PS C:\Users\Faizan> minikube dashboard -p multinode-demo
W0118 21:42:04.643477 8508 main.go:291] Unable to resolve the current Docker CLI context "default": context "default": context not found: open C:\Users\Faizan\.docker\contexts\meta\37a8eec1ce19687d132fe29051dca629d164e2c4958ba141d5f4133a33f0688f\meta.json: The system cannot find the path specified.
* Enabling dashboard ...
- Using image docker.io/kubernetesui/dashboard:v2.7.0
- Using image docker.io/kubernetesui/metrics-scraper:v1.0.8
* Some dashboard features require the metrics-server addon. To enable all features please run:
minikube -p multinode-demo addons enable metrics-server
* Verifying dashboard health ...
* Launching proxy ...
* Verifying proxy health ...
* Opening http://127.0.0.1:52614/api/v1/namespaces/kubernetes-dashboard/services/http:kubernetes-dashboard:/proxy/ in your default browser...

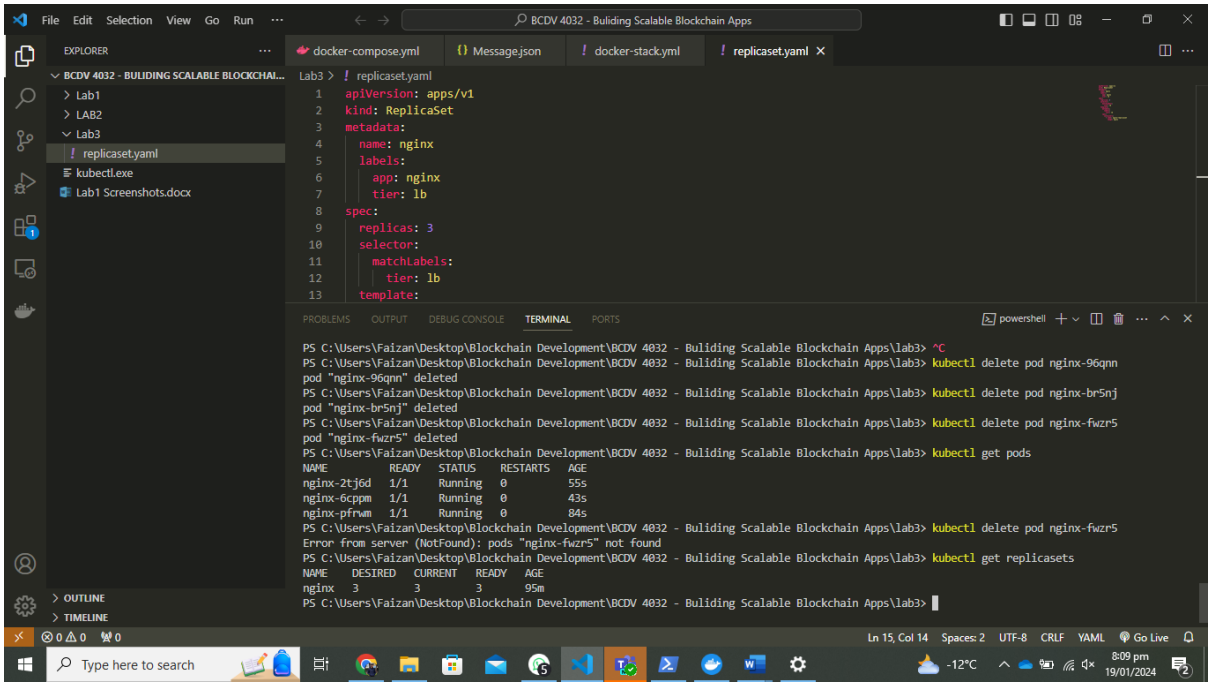

http://127.0.0.1:52614/api/v1/namespaces/kubernetes-dashboard/services/http:kubernetes-dashboard:/proxy/#/workloads?namespace=default
kubernetes
default
Search
Workloads
Workloads
Cron Jobs
Daemon Sets
Deployments
Jobs
Pods
Replica Sets
Replication Controllers
Stateful Sets
Service
Ingresses
Ingress Classes
Services
There is nothing to display here
You can deploy a containerized app, select other namespace or take the Dashboard Tour to learn more.
Type here to search
-5°C
9:47 pm
18/01/2024


Select Windows PowerShell
PS C:\Users\Faizan> minikube stop -p multinode-demo
W0118 21:51:06.305812 11296 main.go:291] Unable to resolve the current Docker CLI context "default": context "default": context not found: open C:\Users\Faizan\.docker\contexts\meta\37a8eec1ce19687d132fe29051dca629d164e2c4958ba141d5f4133a33f0688f\meta.json: The system cannot find the path specified.
* Stopping node "multinode-demo" ...
* Powering off "multinode-demo" via SSH ...
* Stopping node "multinode-demo-m02" ...
* Powering off "multinode-demo-m02" via SSH ...
* 2 nodes stopped.
PS C:\Users\Faizan> minikube delete --all
W0118 21:51:47.381955 2996 main.go:291] Unable to resolve the current Docker CLI context "default": context "default": context not found: open C:\Users\Faizan\.docker\contexts\meta\37a8eec1ce19687d132fe29051dca629d164e2c4958ba141d5f4133a33f0688f\meta.json: The system cannot find the path specified.
* Deleting "minikube" in docker ...
* Removing C:\Users\Faizan\.minikube\machines\minikube ...
* Removed all traces of the "minikube" cluster.
* Deleting "multinode-demo" in docker ...
* Removing C:\Users\Faizan\.minikube\machines\multinode-demo ...
* Removing C:\Users\Faizan\.minikube\machines\multinode-demo-m02 ...
* Removed all traces of the "multinode-demo" cluster.
* Successfully deleted all profiles
PS C:\Users\Faizan>

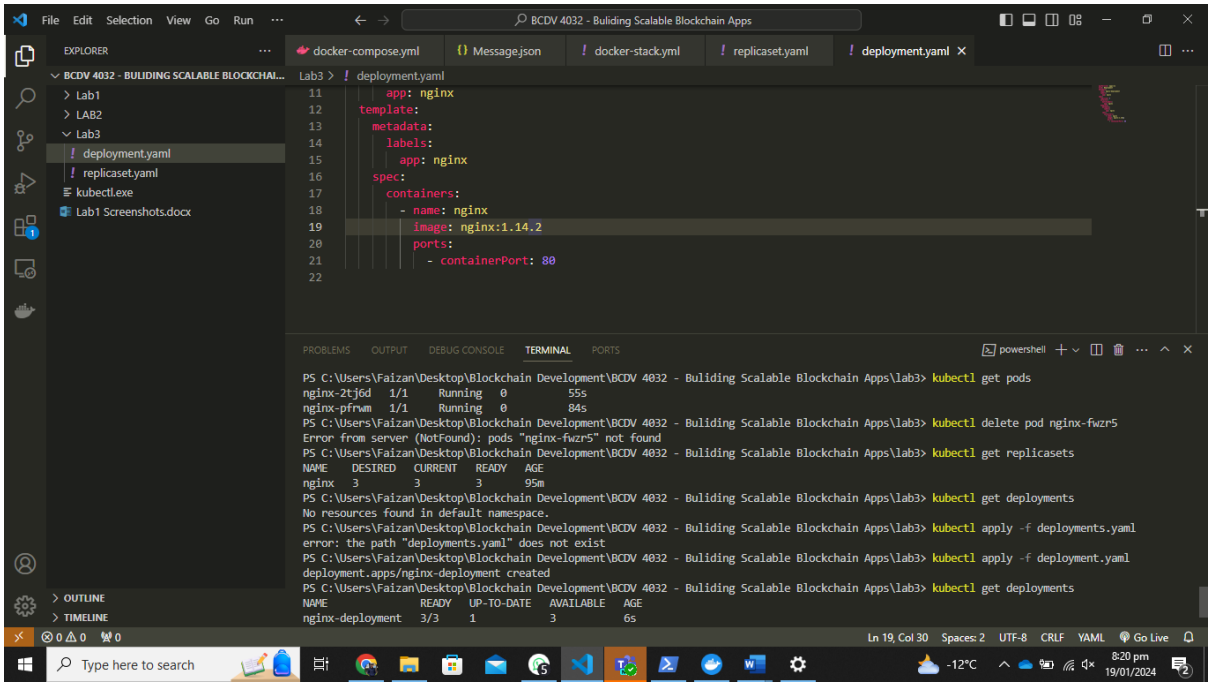
Replicaset.yaml



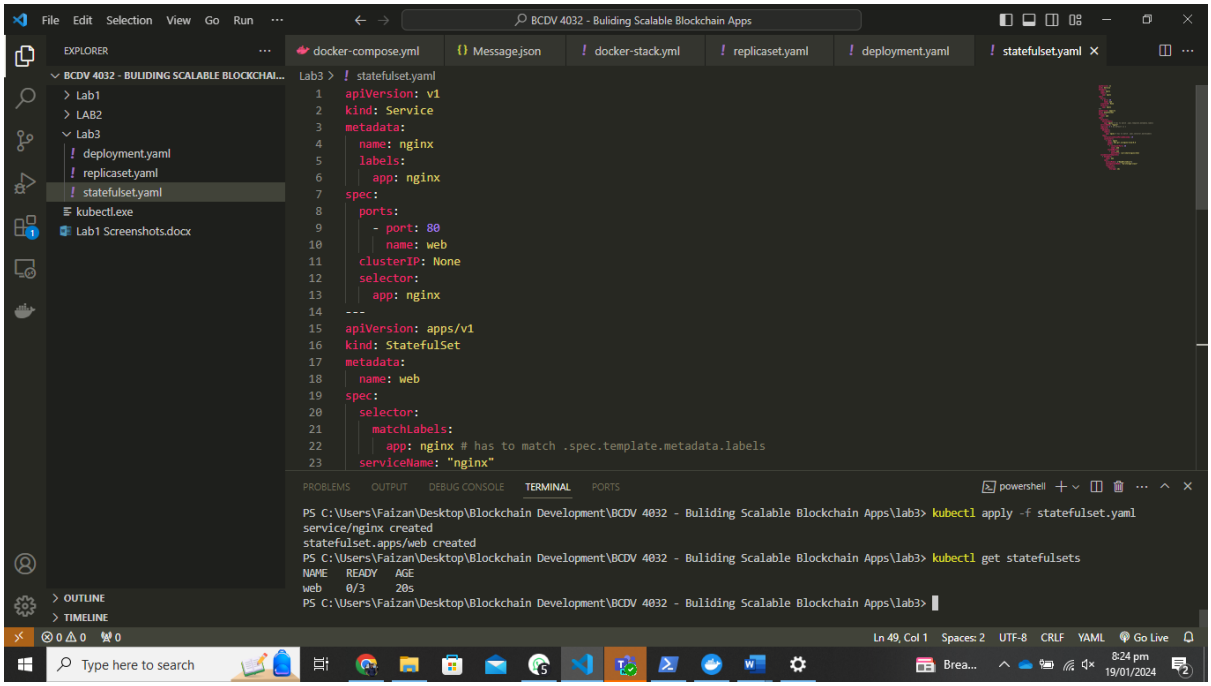




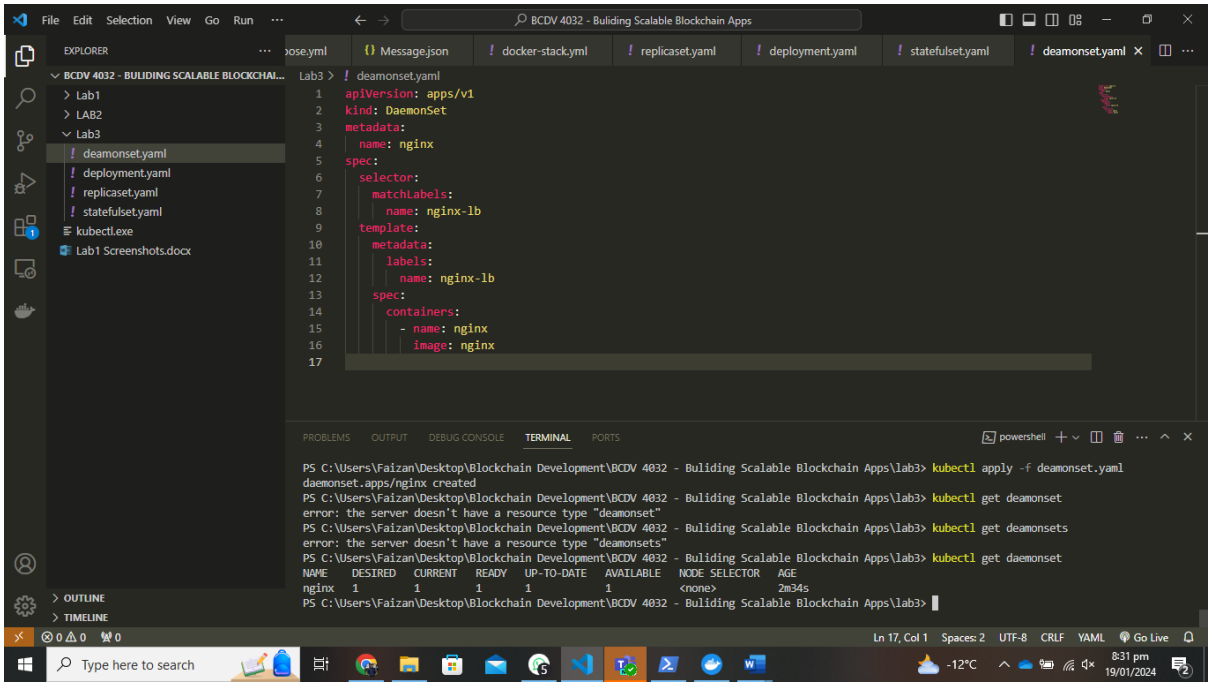
Deployment yaml with replicaset



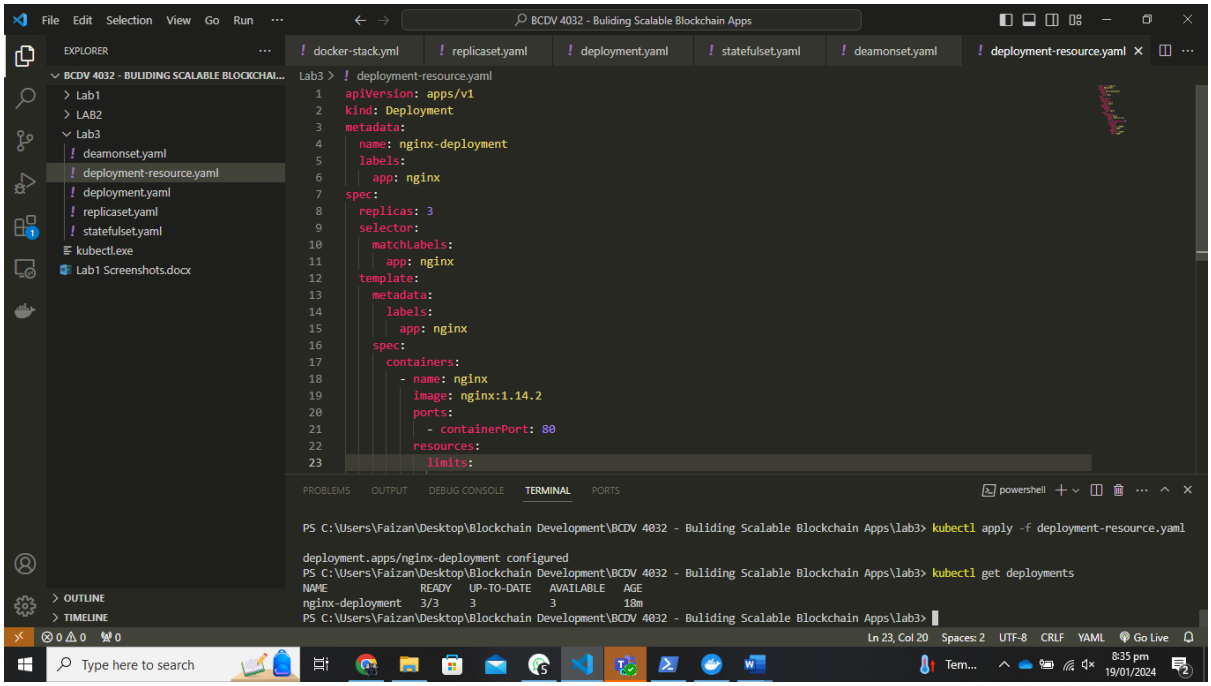
StatefulSet YAML



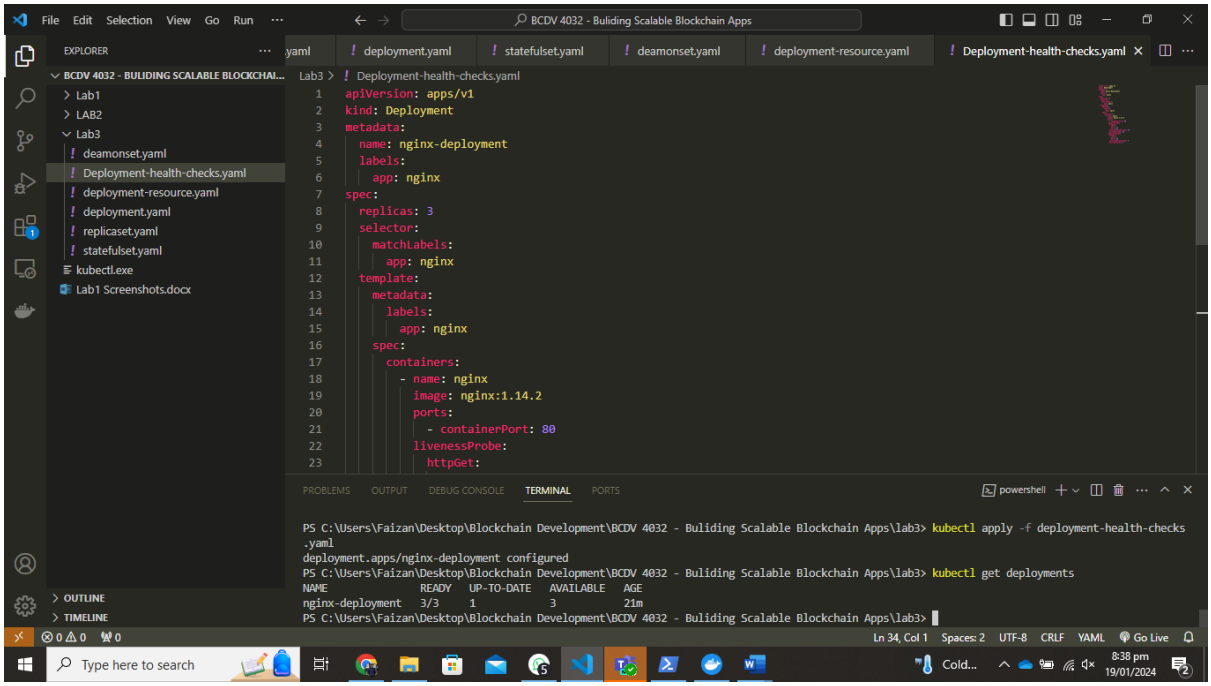
DaemonSet YAML.



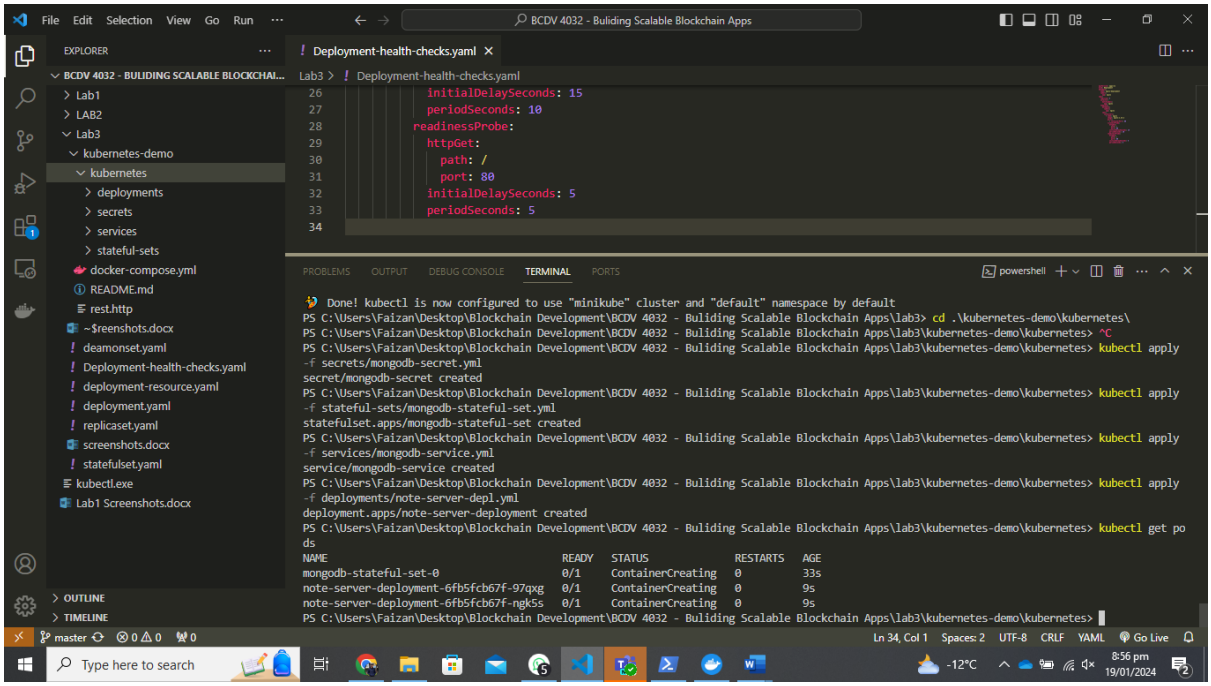
Deployment example with resource limits

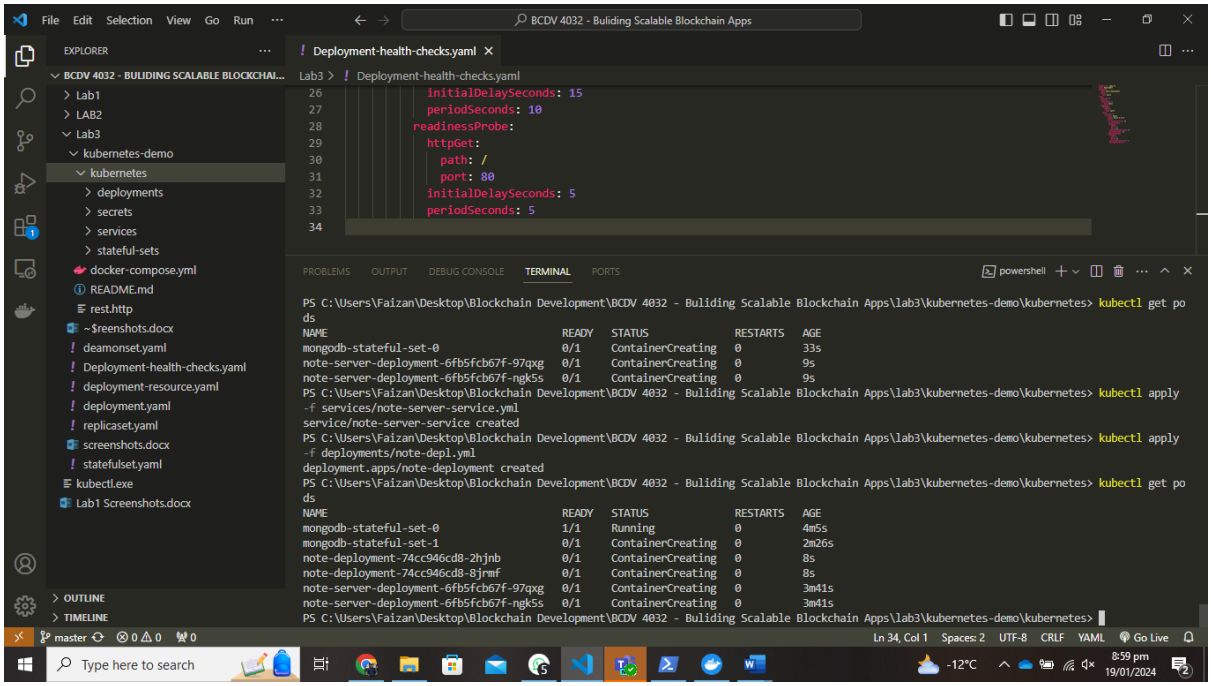


Deployment with health checks



Full stack Application Deployment


File Edit Selection View Go Run
BCDV 4032 - Buliding Scalable Blockchain Apps
EXPLORER
BCDV 4032 - BULIDING SCALABLE BLOCKCHAI...
Lab1
LAB2
Lab3
kubernetes-demo
kubernetes
deployments
secrets
services
stateful-sets
docker-compose.yml
README.md
rest.http
~$reenshots.docx
deamonset.yaml
Deployment-health-checks.yaml
deployment-resource.yaml
deployment.yaml
replicaset.yaml
screenshots.docx
statefulset.yaml
kubectl.exe
Lab1 Screenshots.docx
OUTLINE
TIMELINE
Deployment-health-checks.yaml
Lab3 > Deployment-health-checks.yaml
26 initialDelaySeconds: 15
27 periodSeconds: 10
28 readinessProbe:
29 httpGet:
30 path: /
31 port: 80
32 initialDelaySeconds: 5
33 periodSeconds: 5
34
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
powershell
Done! kubectl is now configured to use "minikube" cluster and "default" namespace by default
PS C:\Users\Faizan\Desktop\Blockchain Development\BCDV 4032 - Buliding Scalable Blockchain Apps\lab3> cd .\kubernetes-demo\kubernetes\
PS C:\Users\Faizan\Desktop\Blockchain Development\BCDV 4032 - Buliding Scalable Blockchain Apps\lab3\kubernetes-demo\kubernetes> ^C
PS C:\Users\Faizan\Desktop\Blockchain Development\BCDV 4032 - Buliding Scalable Blockchain Apps\lab3\kubernetes-demo\kubernetes> kubectl apply -f secrets/mongodb-secret.yml
secret/mongodb-secret created
PS C:\Users\Faizan\Desktop\Blockchain Development\BCDV 4032 - Buliding Scalable Blockchain Apps\lab3\kubernetes-demo\kubernetes> kubectl apply -f stateful-sets/mongodb-stateful-set.yml
statefulset.apps/mongodb-stateful-set created
PS C:\Users\Faizan\Desktop\Blockchain Development\BCDV 4032 - Buliding Scalable Blockchain Apps\lab3\kubernetes-demo\kubernetes> kubectl apply -f services/mongodb-service.yml
service/mongodb-service created
PS C:\Users\Faizan\Desktop\Blockchain Development\BCDV 4032 - Buliding Scalable Blockchain Apps\lab3\kubernetes-demo\kubernetes> kubectl apply -f deployments/note-server-depl.yml
deployment.apps/note-server-deployment created
PS C:\Users\Faizan\Desktop\Blockchain Development\BCDV 4032 - Buliding Scalable Blockchain Apps\lab3\kubernetes-demo\kubernetes> kubectl get pods
NAME READY STATUS RESTARTS AGE
mongodb-stateful-set-0 0/1 ContainerCreating 0 33s
note-server-deployment-6fb5fcb67f-97qxg 0/1 ContainerCreating 0 9s
note-server-deployment-6fb5fcb67f-ngk5s 0/1 ContainerCreating 0 9s
PS C:\Users\Faizan\Desktop\Blockchain Development\BCDV 4032 - Buliding Scalable Blockchain Apps\lab3\kubernetes-demo\kubernetes>
master
Ln 34, Col 1 Spaces: 2 UTF-8 CRLF YAML Go Live
Type here to search
-12°C
8:56 pm
19/01/2024


File Edit Selection View Go Run
BCDV 4032 - Buliding Scalable Blockchain Apps
EXPLORER
BCDV 4032 - BULIDING SCALABLE BLOCKCHAI...
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LAB2
Lab3
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kubernetes
deployments
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docker-compose.yml
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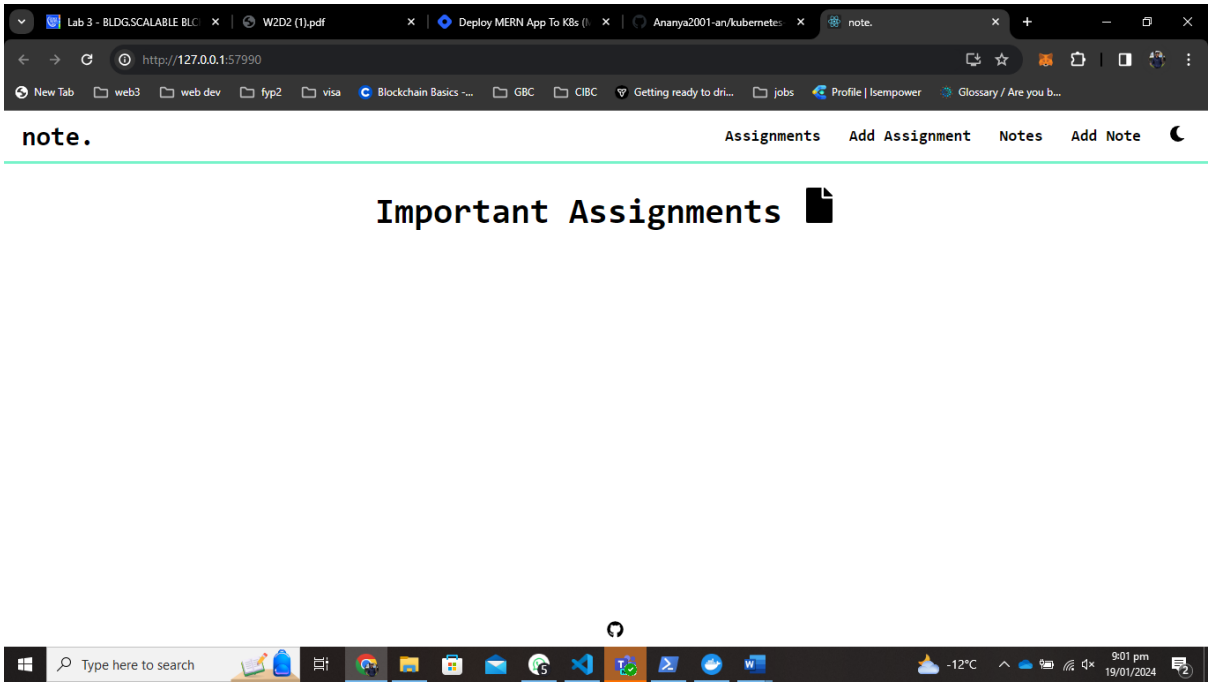
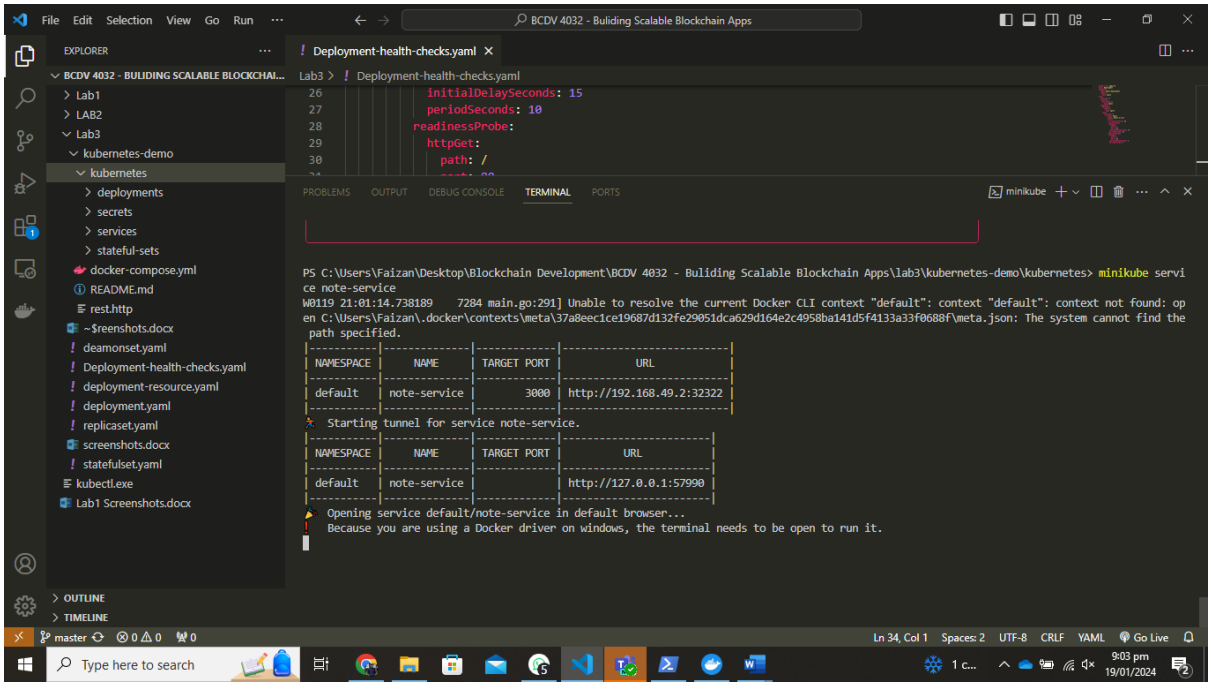
rest.http
~$reenshots.docx
deamonset.yaml
Deployment-health-checks.yaml
deployment-resource.yaml
deployment.yaml
replicaset.yaml
screenshots.docx
statefulset.yaml
kubectl.exe
Lab1 Screenshots.docx
OUTLINE
TIMELINE
Deployment-health-checks.yaml
Lab3 > Deployment-health-checks.yaml
26 initialDelaySeconds: 15
27 periodSeconds: 10
28 readinessProbe:
29 httpGet:
30 path: /
31 port: 80
32 initialDelaySeconds: 5
33 periodSeconds: 5
34
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
powershell
PS C:\Users\Faizan\Desktop\Blockchain Development\BCDV 4032 - Buliding Scalable Blockchain Apps\lab3\kubernetes-demo\kubernetes> kubectl get pods
NAME READY STATUS RESTARTS AGE
mongodb-stateful-set-0 0/1 ContainerCreating 0 33s
note-server-deployment-6fb5fcb67f-97qxg 0/1 ContainerCreating 0 9s
note-server-deployment-6fb5fcb67f-ngk5s 0/1 ContainerCreating 0 9s
PS C:\Users\Faizan\Desktop\Blockchain Development\BCDV 4032 - Buliding Scalable Blockchain Apps\lab3\kubernetes-demo\kubernetes> kubectl apply -f services/note-server-service.yml
service/note-server-service created
PS C:\Users\Faizan\Desktop\Blockchain Development\BCDV 4032 - Buliding Scalable Blockchain Apps\lab3\kubernetes-demo\kubernetes> kubectl apply -f deployments/note-depl.yml
deployment.apps/note-deployment created
PS C:\Users\Faizan\Desktop\Blockchain Development\BCDV 4032 - Buliding Scalable Blockchain Apps\lab3\kubernetes-demo\kubernetes> kubectl get pods
NAME READY STATUS RESTARTS AGE
mongodb-stateful-set-0 1/1 Running 0 4m5s
mongodb-stateful-set-1 0/1 ContainerCreating 0 2m26s
note-deployment-74cc946cd8-2hjnb 0/1 ContainerCreating 0 8s
note-deployment-74cc946cd8-8jrmf 0/1 ContainerCreating 0 8s
note-server-deployment-6fb5fcb67f-97qxg 0/1 ContainerCreating 0 3m41s
note-server-deployment-6fb5fcb67f-ngk5s 0/1 ContainerCreating 0 3m41s
PS C:\Users\Faizan\Desktop\Blockchain Development\BCDV 4032 - Buliding Scalable Blockchain Apps\lab3\kubernetes-demo\kubernetes>
master
Ln 34, Col 1 Spaces: 2 UTF-8 CRLF YAML Go Live
Type here to search
-12°C
8:59 pm
19/01/2024


Lab 3 - BLDG.SCALABLE BLC
W2D2 (1).pdf
Deploy MERN App To K8s (
Ananya2001-an/kubernetes
note.
http://127.0.0.1:57990
New Tab
web3
web dev
fyp2
visa
Blockchain Basics -...
GBC
CIBC
Getting ready to dri...
jobs
Profile | Isempower
Glossary / Are you b...
note.
Assignments
Add Assignment
Notes
Add Note
Important Assignments
Type here to search
-12°C
9:01 pm
19/01/2024


File Edit Selection View Go Run
BCDV 4032 - Buliding Scalable Blockchain Apps
EXPLORER
BCDV 4032 - BULIDING SCALABLE BLOCKCHAI...
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LAB2
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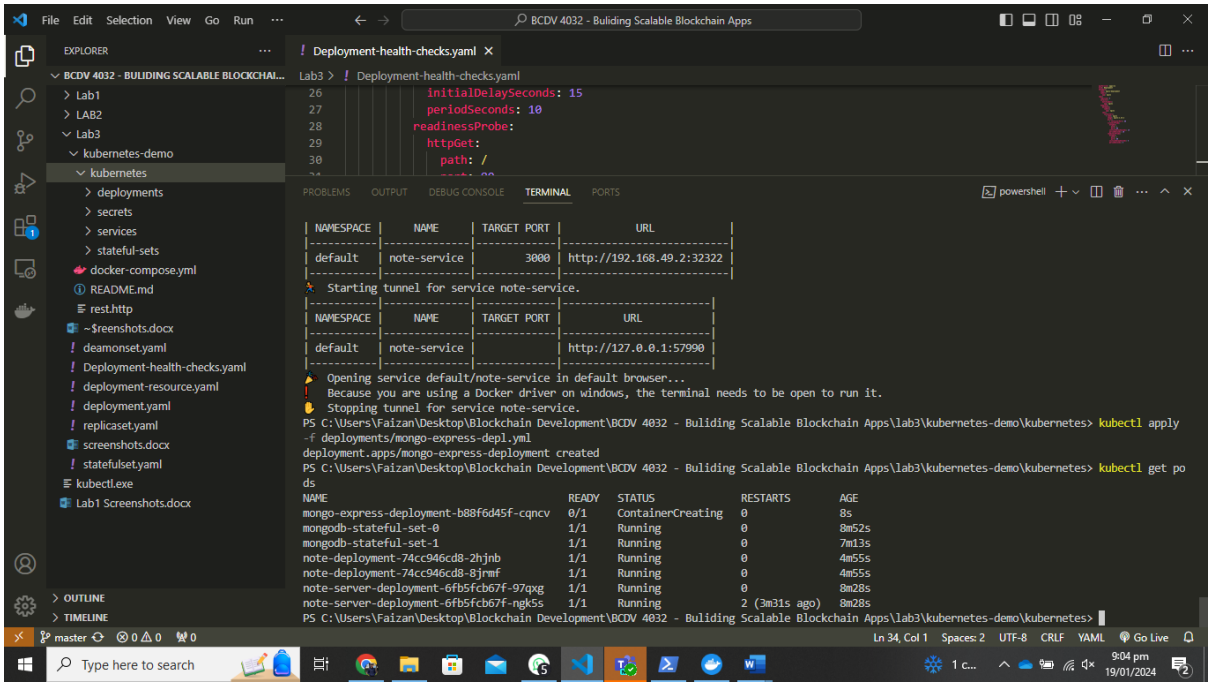
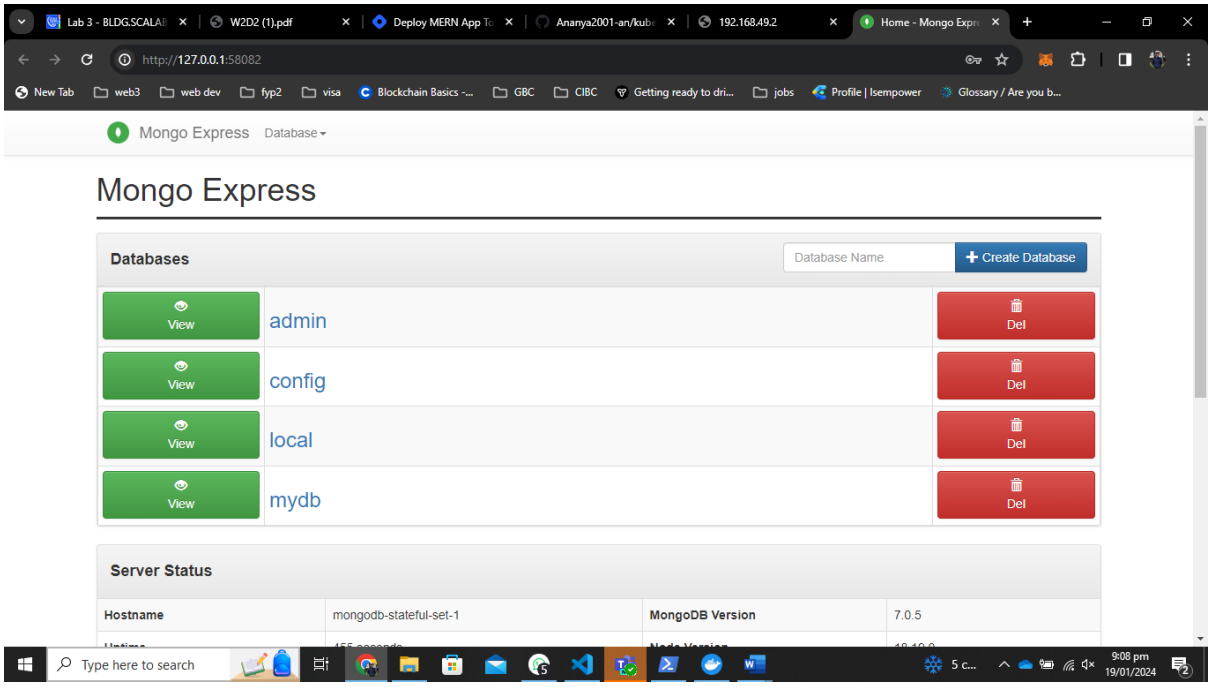
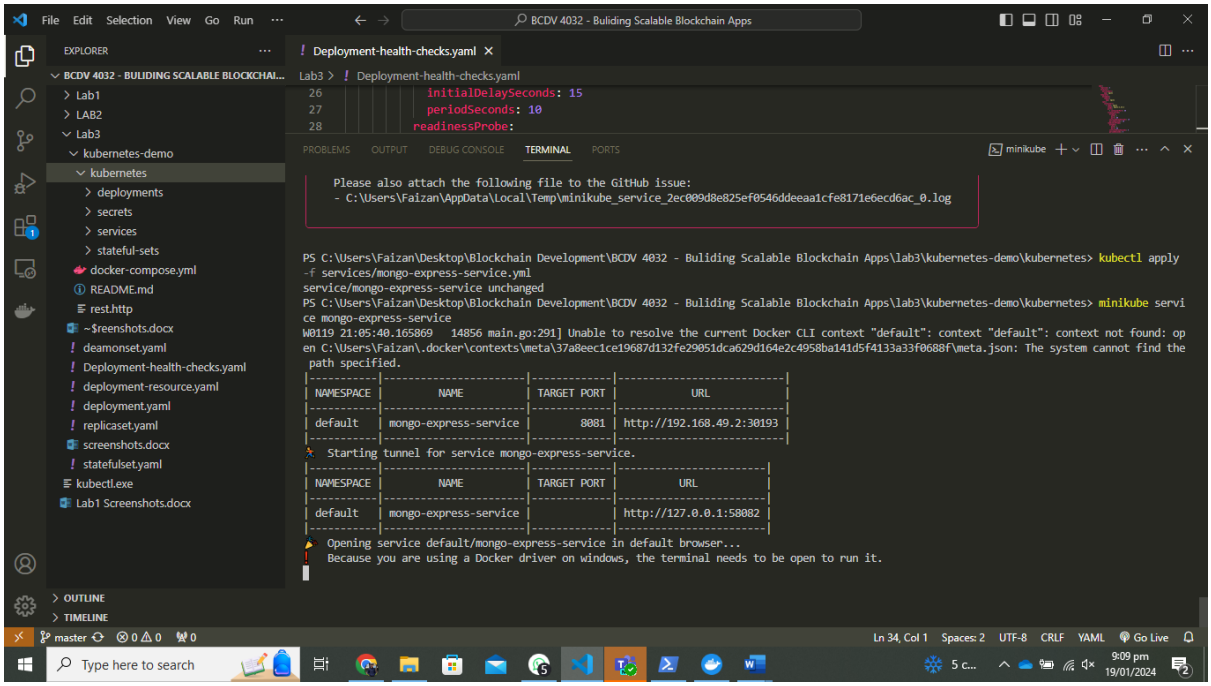
Deployment-health-checks.yaml
deployment-resource.yaml
deployment.yaml
replicaset.yaml
screenshots.docx
statefulset.yaml
kubectl.exe
Lab1 Screenshots.docx
Deployment-health-checks.yaml
Lab3 > Deployment-health-checks.yaml
initialDelaySeconds: 15
periodSeconds: 10
readinessProbe:
httpGet:
path: /
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
minikube
PS C:\Users\Faizan\Desktop\Blockchain Development\BCDV 4032 - Buliding Scalable Blockchain Apps\lab3\kubernetes-demo\kubernetes> minikube service note-service
W0119 21:01:14.738189 7284 main.go:291] Unable to resolve the current Docker CLI context "default": context "default": context not found: open C:\Users\Faizan\.docker\contexts\meta\37a8eec1ce19687d132fe29051dca629d164e2c4958ba141d5f4133a33f0688f\meta.json: The system cannot find the path specified.
| NAMESPACE | NAME | TARGET PORT | URL |
| default | note-service | 3000 | http://192.168.49.2:32322 |
Starting tunnel for service note-service.
| NAMESPACE | NAME | TARGET PORT | URL |
| default | note-service | | http://127.0.0.1:57990 |
Opening service default/note-service in default browser...
Because you are using a Docker driver on windows, the terminal needs to be open to run it.
OUTLINE
TIMELINE
master
Ln 34, Col 1
Spaces: 2
UTF-8
CRLF
YAML
Go Live
Type here to search
9:03 pm
19/01/2024


File Edit Selection View Go Run
BCDV 4032 - Buliding Scalable Blockchain Apps
EXPLORER
BCDV 4032 - BULIDING SCALABLE BLOCKCHAI...
Lab1
LAB2
Lab3
kubernetes-demo
kubernetes
deployments
secrets
services
stateful-sets
docker-compose.yml
README.md
rest.http
~$reenshots.docx
deamonset.yaml
Deployment-health-checks.yaml
deployment-resource.yaml
deployment.yaml
replicaset.yaml
screenshots.docx
statefulset.yaml
kubectl.exe
Lab1 Screenshots.docx
OUTLINE
TIMELINE
Deployment-health-checks.yaml
Lab3 > Deployment-health-checks.yaml
initialDelaySeconds: 15
periodSeconds: 10
readinessProbe:
httpGet:
path: /
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
powershell
| NAMESPACE | NAME | TARGET PORT | URL |
| default | note-service | 3000 | http://192.168.49.2:32322 |
Starting tunnel for service note-service.
| NAMESPACE | NAME | TARGET PORT | URL |
| default | note-service | | http://127.0.0.1:57990 |
Opening service default/note-service in default browser...
Because you are using a Docker driver on windows, the terminal needs to be open to run it.
Stopping tunnel for service note-service.
PS C:\Users\Faizan\Desktop\Blockchain Development\BCDV 4032 - Buliding Scalable Blockchain Apps\lab3\kubernetes-demo\kubernetes> kubectl apply -f deployments/mongo-express-depl.yml
deployment.apps/mongo-express-deployment created
PS C:\Users\Faizan\Desktop\Blockchain Development\BCDV 4032 - Buliding Scalable Blockchain Apps\lab3\kubernetes-demo\kubernetes> kubectl get pods
NAME READY STATUS RESTARTS AGE
mongo-express-deployment-b88f6d45f-cqncv 0/1 ContainerCreating 0 8s
mongodb-stateful-set-0 1/1 Running 0 8m52s
mongodb-stateful-set-1 1/1 Running 0 7m13s
note-deployment-74cc946cd8-2hjnb 1/1 Running 0 4m55s
note-deployment-74cc946cd8-8jrmf 1/1 Running 0 4m55s
note-server-deployment-6fb5fcb67f-97qxg 1/1 Running 0 8m28s
note-server-deployment-6fb5fcb67f-ngk5s 1/1 Running 2 (3m31s ago) 8m28s
PS C:\Users\Faizan\Desktop\Blockchain Development\BCDV 4032 - Buliding Scalable Blockchain Apps\lab3\kubernetes-demo\kubernetes>
master
Ln 34, Col 1 Spaces: 2 UTF-8 CRLF YAML Go Live
Type here to search
9:04 pm 19/01/2024


Lab 3 - BLDG.SCALAB
W2D2 (1).pdf
Deploy MERN App To
Ananya2001-an/kube
192.168.49.2
Home - Mongo Expre
http://127.0.0.1:58082
New Tab
web3
web dev
fyp2
visa
Blockchain Basics -...
GBC
CIBC
Getting ready to dri...
jobs
Profile | Isempower
Glossary / Are you b...
Mongo Express
Database
Mongo Express
Databases
Database Name
Create Database
View
admin
Del
config
local
mydb
Server Status
Hostname
mongodb-stateful-set-1
MongoDB Version
7.0.5
Type here to search
9:08 pm 19/01/2024



Bring down note-depp pod. Demonstrate using screenshot if a new pod has started.